of the diseases from the lesions of which they were isolated is indicated further by the fact that they have elective affinity for the corresponding structures in animals. Moreover, the fact that the same streptococcus may be made to localize in different organs is in consonance with the knowledge that streptococci may cause diseases with different symptomatology.

This may be said to constitute the case for the etiologic relationship of streptococci in the production of acute and subacute rheumatic fever. There are other disease processes that simulate rheumatic fever. Gonorrheal infection of the genitalia is often followed by localization in joints that simulates that above process. According to Rosenow and others the difference between these processes and gonococcus infection is that the first is a non-destructive arthritis whereas the arthritis of gonorrhea is a purulent destructive process which not unusually produces subsequent ankylosis, but this is not entirely true, as will be seen later.

Murphy, who was to have delivered the Carpenter Lecture at the New York Academy of Medicine, but who unfortunately died previous to the date set for this lecture, summarized in his paper all of these conditions as metatstatic arthritides and subdivided them etiologically into those arthritides where the etiological factor had been found and those in which the origin could not be found.

In a series of 859 cases studied he found the streptococcus in 31%, gonococcus 14%, staphylococcus 8%, colon bacillus 4% and a combination of two or more organisms in 38% of the cases.

There was a definite period of incubation for every infection. For the Neisserian infection it was 18 to 24 days after the primary infection, for the staphylococcus 8 to 14 days, while a streptococcus infection might occur in 48 hours. In typhoid fever the secondary infection might occur four, six to eight weeks after the beginning of the disease manifestations. In this connection Dr. Kreuscher quoted Dr. Murphy as saying that he could not understand why certain authors reported positive cultures from the joint fluids in 5% to 87% of the cases. Dr. Murphy believed that the infection was a periarticular one and only in rare cases did the bacteria pass directly into the joint fluid.

Dr. Murphy was of the opinion that the bacteria found lodgment in the terminal arterial branches of the synovial membrane and did not penetrate further into the joint cavity. And although a little out of the province of this paper, Dr. Murphy is quoted there as advising the use of autogenous vaccines prepared from organisms cultured from the patient's blood in addition to other surgical measures.

It may be seen from the above that there is no unanimous opinion as to the universal role that focal infections are supposed to play in the production of subacute and chronic rheumatic processes.

Chronic Infectious Arthritis.

Under the classification of chronic infectious arthritides present knowledge justifies the consideration of chronic arthritis which may be due to various forms of pathogenic bacteria. Investigation has shown that a strain of the streptococcus, gonococcus, tubercle bacillus, bacillus typhosus and spirocheta pallida are the most common infectious causes of chronic arthritis. When other bacteria are found in the infected tissues of chronic arthritis and myositis, they may have etiologic relations to the conditions, but are probably present in the tissue as a mixed infection or purely as parasites.

The infection of the joints, muscles and other involved tissues with pathogenic organisms which usually are members of the streptococcus group and the gonococcus which are of relatively low virulence; (2) a hematogenous infection with embolism with resulting injury of blood vessels and small hemorrhages into the infected tissues; (3) lessened blood supply and oxygenation and consequent relative starvation of the infected tissues and dependent upon the malnutrition, favorable conditions for the continued life and multiplication of the infectious organisms, and finally (4) retrograde metabolism due to the malnutrition.

In the chronic infections due to the streptococcus, chronic arthritis may occur alone or associated with chronic myositis, and chronic myositis may also occur alone, involving single or groups of muscles. In chronic gonococcus arthritis the muscles are rarely, if ever, involved. Tenovaginitis is, however, more apt to occur than in chronic streptococcus infection.

Various anatomical types of chronic infectious arthritis may occur, which doubtless depends upon the degree of bacteriema, the degree of virulence of the infectious organisms, the resistance of the tissues and the fact that the mode of infection is hematogenous. Consequently we may have a preiarthritis, a synovitis, an osteo-arthritis or a panarthritis. Any or all of these types may exist in the same individual.

In addition, the enlightening experiments of Faber should be mentioned, who found that it is possible to reproduce in rabbits arthritis only after previous sensitization with killed or living bacteria that had been injected into or around the joint, and that it was possible to produce extensive destruction of tissue if the anaphylactic reaction with the specific microorganism could be obtained, and thus the experiments of Cecil are of importance. He found that the injection of non-hemolytic streptococci into vitally stained rabbits was followed by the development of arthritis similar to the arthritis of acute rheumatism and changes differing from an acute to a process which resembled chronic deforming arthritis could be demonstrated. These tend to substantiate the bacterial theory of chronic rheumatic processes.

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DEPARTMENT OF PHARMACY AND CHEMISTRY.

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(Devoted to the advancement of Pharmacy and its allied branches; to the work of the Council on Pharmacy and Chemistry of the American Medical Association, and to matters of interest bearing upon the therapeutic agents offered to the medical profession. The editor will gladly supply available information on matters coming within the scope of this Department.)

NEW AND NONOFFICIAL REMEDIES.

Since publication of New and Nonofficial Remedies, 1916, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Formin Tablets, 5 grains.—Each tablet contains 5 grains of formin (see New and Nonofficial Remedies, 1916, p. 138). Merck & Co., New York.

Formin Tablets, 7½ grains.—Each tablet contains 7½ grains of formin (see New and Nonofficial

Remedies, 1916, p. 138). Merck & Co., New York.

Veronal Tablets, 5 grains.—Each tablet contains 5 grains of veronal (see New and Nonofficial Remedies, 1916, p.. 92).

Urease.—An enzyme found in certain beans, fungi and micro-organisms which, in the presence of water, converts urea into ammonium carbonate. It is used in the determination of urea in the urine, blood and other body fluids, either by determining the increase in alkalinity of the fluid to which it is added, or else the ammonia produced by it in the fluid is removed and estimated.

Urease-Squibb.—A standardized preparation of urease obtained from the jack bean. It is supplied in the form of powder and tablets containing 0.1 gm. E. R. Squibb & Sons, New York.

Neutral Solution of Chlorinated Soda.—Solution Chlorinated Soda, Dakin.—Solution Chlorinated Soda, Carrel-Dakin.—A chlorinated soda solution, containing 0.43 to 0.48 per cent. of available chlorine, free from caustic alkali. It is prepared by treating a suspension of chlorinated lime in water with definite amounts of sodium carbonate and sodium bicarbonate and adjusting the separated clear liquid to the required content of available chlorine. The solution is not reddened by phenolphthalein. It must be protected from light. The solution has been used for the irrigation of wounds, especially infected war wounds.

Theobromine-Merck.—A brand complying with the standards for theobromine—N. N. R. Merck & Co., New York.

Barium Sulphate, P. W. R. for X-Ray Diagnosis. —A brand complying with the standards for barium sulphate for Roentgen-ray work—N. N. R. Powers-Weightman-Rosengarten Co., Philadelphia.

Barium Sulphate, Merck for X-Ray Diagnosis.— A brand complying with the standards for barium sulphate for Roentgen-ray work—N. N. R. Merck & Company, New York. (Jour. A. M. A., Jan. 13, 1917, p 121.)

Acetylsalicylic Acid.—Acidum acetylsalicylicum. Aspirin. The acetyl derivative of salicylic acid. Dosage: 0.3 to 1.0 gm., repeated once in 3 hours until symptoms of salicylism are noted. It may be dispensed as powders (in wax paper), wafers or capsules.

Iocamfen.—A liquid obtained by the interaction of iodin 10 parts, phenol 20 parts, and camphor 70 parts, containing about 7.25 per cent. free iodin. Iocamfen is said to have the antiseptic and germicidal propertries of iodin and also the analgesic, stimulating and antiphlogistic properties of camphor and phenol. It is used in dressing wounds, etc. Iocamfen is also supplied as Iocamfen Ampules, containing 20 minims iocamfen. Schering and Glatz. New York. (Jour. A. M. A., Jan. 20, 1917, p. 199.)

ITEMS OF INTEREST.

Toxicity of Salvarsan and Neosalvarsan.—Claude L. Shields, M. D., Salt Lake City, reports that out of the last twenty-three injections of neosalvarsan four cases exhibited severe poisoning and one resulted in death. He reports that experience of other physicians of severe toxic symptoms from the use of recent shipments of salvarsan and neosalvarsan. (Jour. A. M. A., Jan. 6, 1917, p. 53.)

The Search for the Ideal Antiseptic.—R. A. Lambert has followed the effect of the same chemical agent on bacteria and tissue cells growing together in vitra. He finds that the growth of tissue cells is more easily affected by potassium cyanide, phenol, tricresol, hydrogen peroxide and alcohol than was the growth of bacteriae. Iodin stands out as the one chemical tested to which tissue cells were found more resistant than were staphylococci. A good growth of cells was seen after exposure to a 1 in 2000 solution of iodin for an hour—a strength sufficient to sterilize the tissue completely in most instances. Lambert points out that the power of iodin to dissolve fibrin may be an objection to its use as an antiseptic wound dressing. (Jour. A. M. A., Jan. 6, 1917, p. 40.)

Iron Citrate, Green.—H. K. Mulford Company and E. R. Squibb and Sons submitted to the Council on Pharmacy and Chemistry ampules containing solutions of iron citrate, green. It thus became necessary for the Council to consider the eligibility of iron citrate, green, itself for admission to New and Nonofficial Remedies. As the rules of the Council provide that non-essential modifications of official or nonproprietary preparations will not be recognized, the above-named firms were asked to state what advantage, if any, the so-called iron citrate, green has over the official iron and ammonium citrate. Inasmuch as no evidence was presented to show that iron citrate, green has any advantage over the well-known iron and ammonium citrate, the Council held that iron citrate, green and with it the dosage forms, were ineligible to New and Nonofficial Remedies. Advised of this decision, the Mulford Company replied that in the present case it felt bound to supply the existing demand. Squibb and Sons replied that, to give the Council its support in this matter, the sale of iron citrate, green and ampules thereof would be discontinued. (Jour. A. M. A., Jan. 13, 1917, p. 135.)

Acetylsalicylic Acid, Not Aspirin.—While Aspirin-Bayer has been omitted from New and Nonofficial Remedies, the product is retained under its scientific name, acetylsalicylic acid, and standards are provided to ensure the reliability of the market product. The Aspirin patent expires in February, 1917, and after this time other manufacturers may make and sell the product. One firm's brand, that of the Powers-Weightman-Rosengarten Co., has been accepted for New and Nonofficial Remedies, 1917. Hereafter physicians, when prescribing the compound, should use the scientific name "acetylsalicylic acid." (Jour. A. M. A., Jan. 20, 1917, p. 201.)

Aspirin-Bayer Omitted from N. N. R.—Aspirin-Bayer is advertised to the public, indirectly by means of "vest-pocket" boxes bearing the name "Aspirin" permanently affixed, and directly by means of extensive newspaper advertising. Inasmuch as this advertising propaganda is an infringement of the rules of the Council and is against the interests of public health, the Council voted to omit Aspirin-Bayer from New and Nonofficial Remedies. (Jour. A. M. A., Jan. 20, 1917, p. 213.)

More Misbranded Nostrums.—Chiefly because of unwarranted therapeutic claims, the following "patent medicines" were found misbranded under the Federal Food and Drugs Act: Goff's Cough Syrup, a syrup containing some vegetable extractive and traces of iron, iodids, antimony and alkaloids.—Goff's Herb Bitters, a water-alcohol solution of aloes, sugar and alkaline carbonate flavored with peppermint.—Dander-Off, an alkaline solution of borax and white arsenic colored with coal-tar dye. —Tu-Ber-Ku, a tuberculosis cure containing 20 per cent. alcohol.—Electrozone, claimed to contain or to liberate ozone.—Orange Blossom Female Suppositories, containing boric acid, aluminum salt, sulphate, potassium salt, sodium salt, starch and petrolatum.—Dr. Simpson's Vegetable Compound, essentially an alcohol-water solution of potassium iodid with a small amount of vegetable extractive in which podophyllum, licorice and gentian were indicated.—Weller's Stone Root and Gin, containing 37.5 per cent. alcohol. (Jour. A. M. A., Jan. 13. 1917, p. 135.)

More Misbranded Nostrums.—The following "patent medicines" have been declared misbranded under the U. S. Food and Drugs Act, chiefly because unwarranted curative claims were made for them: Dr. Thatcher's Liver and Blood Syrup, claimed to cure all liver complaints and many other